

**ABSTRACT**

Tube ends such as those of boiler tube banks, are prepared utilizing any of various combinations of processes which include a step of micro-diameter tube film removal from a portion of a tube end, including an area below a beveled segment, or segment to be beveled. The micro-diameter film removal step provides the tube with an exposed, clean metal surface which is conducive to a subsequent welding or bonding operation performed on the tube. Preferably, the process is performed with a tube milling tool having interchangeable milling or cutting heads. A specialized milling head is also disclosed and, in one embodiment, is at least used to perform the micro-diameter tube film removal step. Advantageously, the tube film removal milling head also removes a weld overlay on one or both sides of a tube in one embodiment. The tube film removal milling head includes an attached blade having a planar face configuration which enables tube film removal.